

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP2004/010383

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 G01N33/50 A61K39/395 A61K48/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 G01N A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, BIOSIS, Sequence Search, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	YAMAUCHI T ET AL: "Cloning of adinopectin receptors that mediate antidiabetic metabolic effects" NATURE, MACMILLAN JOURNALS LTD. LONDON, GB, vol. 423, 12 June 2003 (2003-06-12), pages 762-769, XP002277646 ISSN: 0028-0836	19-21,25
A	the whole document	1-18, 22-24,26
P,X	WO 2004/061108 A (NISSAN CHEMICAL IND LTD ; NAGAI RYOZO (JP); KAMON JYUNJI (JP); CT FOR) 22 July 2004 (2004-07-22) abstract, Seq. Id. No. 3, drawing sheets 22/39 - 31/39 ----- -/--	22

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

20 December 2004

Date of mailing of the international search report

29.04.05

Name and mailing address of the ISA

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	WO 2004/063711 A (BETH ISRAEL HOSPITAL ; MANTZOROS CHRISTOS S (US)) 29 July 2004 (2004-07-29) p. 13, line 20 - p. 16, line 25, claims 29 - 32	19-21, 24-26
X	----- YAMAUCHI T ET AL: "The fat-derived hormone adiponectin reverses insulin resistance associated with both lipoatrophy and obesity" NATURE MEDICINE, NATURE PUBLISHING, CO, US, vol. 7, no. 8, August 2001 (2001-08), pages 941-946, XP002242792 ISSN: 1078-8956	19-21,25
A	Discussion	1-18, 22-24,26
X	----- WO 02/072149 A (OKLAHOMA MED RES FOUND) 19 September 2002 (2002-09-19) claims 1-20	19-21,25
A	-----	1-18, 22-24,26

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## Box II Observations where certain claims were found unsearchable (Continuation of Item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 18 - 26 (part.)  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  
1-18, 24-26 (part.)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

## Continuation of Box II.2

Claims Nos.: 18 - 26 (part.)

1. Present claims 19 - 21, 24 - 26 relate to a compound defined by reference to a desirable characteristic or property, namely to bind to or to regulate the activity of adiponectin receptor 2 ("adipoR2").

The claims cover all compounds having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the compound by reference to a desired activity which definition does not allow to deduce any structural element or motif required to exert the desired activity. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to the antibodies or antisense RNA/ribozymes.

2. The pertinent claims 18 - 26 relate to adipoR2 as diagnostic marker or therapeutical target for a broad variety of diseases. These uses indispensably require that the diagnostic target/therapeutical target is differentially expressed or functionally altered in diseased tissue (essential and generally sufficient criterion in respect of diagnostic uses, essential but non-sufficient criterion for therapeutical uses). The present application documents however provide support in terms of demonstration of differential expression in healthy vs. diseased tissue only for different forms of cancer and COPD. It is noted in this respect, that the application fails to provide a diagnostically significant association of adipoR2 expression with cardiovascular disorders. The claims can therefore be searched and examined only to the extent they deserve substantial evidence by the description, i.e. insofar as diagnostic or therapeutic applications in conjunction with cancer diseases/COPD are concerned.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: claims 1-18,24-26 (part.)

adipoR2 as screening marker/diagnostic marker/therapeutical  
target in conjunction with cancer diseases  
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2. claims: claims 1-18,24-26 (part.)

adipoR2 as screening marker/diagnostic marker/therapeutical  
target in conjunction with COPD  
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2004061108 A	22-07-2004	AU 2003242352 A1 WO 2004061108 A1 US 2004241802 A1	29-07-2004 22-07-2004 02-12-2004
WO 2004063711 A	29-07-2004	US 2005059581 A1 WO 2004063711 A2	17-03-2005 29-07-2004
WO 02072149 A	19-09-2002	CA 2440144 A1 EP 1372726 A1 JP 2004521930 T WO 02072149 A1 US 2002132773 A1	19-09-2002 02-01-2004 22-07-2004 19-09-2002 19-09-2002